Vanguard MedReview, Inc.
101 Ranch Hand Lane
Aledo, TX 76008
P 817-751-1632
F 817-632-2619

April 18, 2018
IRO CASE #: XXXX

DESCRIPTION OF THE SERVICE OR SERVICES IN DISPUTE:
Lumbar ESI L4/L5 Level, Right

A DESCRIPTION OF THE QUALIFICATIONS FOR EACH PHYSICIAN OR OTHER HEALTH CARE PROVIDER WHO REVIEWED THE DECISION:
This case was reviewed by a Board Certified Orthopedic Surgeon with over 18 years of experience.

REVIEW OUTCOME:
Upon independent review, the reviewer finds that the previous adverse determination/adverse determinations should be:
☒ Upheld (Agree)

Provide a description of the review outcome that clearly states whether medical necessity exists for each of the health care services in dispute.

PATIENT CLINICAL HISTORY [SUMMARY]:
Undated: Incident XX sheet: XX came to me around XXXX to notify me of an accident XX incurred while XX. XX explained XX explained to the patient the process to XX. While XX. The patient's body was numb from waist down, XX was weak. The patient swayed and felt loss of balance. XX experienced a sharp pain in XX lower back, legs and toes. XX told XX, declined treatment and wanted to stay and complete XX shift. Incident form requested and received from corporate HR. handed to XX XXXX. Received summary from XX. XX felt better XX compared to XX. However, XX feels swelling in lower back. XX sent XX to XX. XX gave XX authorization for us to approve.

XXXX: Office Note by XX. **HPI:** Patient states later that night when home, felt a sharp pain in XX neck like a "crick" w/o radiation, tingling or numbness in XX hands or fingers. Pain in XX neck 5/10 and in XX lower back 6/10 if standing and 8/10 if sitting. XX back is worse if sitting, bending, standing and nothing makes it better. Took XX and ice w/o relief. The pain is located in the posterior neck bilaterally, lateral neck bilaterally, trapezius bilaterally and shoulders bilaterally. They symptoms occur constantly. XX described XX pain as sharp, dull, aching, stinging and throbbing in nature. XX has a current pain level of 5/10. There is no radiation. Associated symptoms include decreased neck ROM, neck stiffness and neck tenderness, but no fever, no headache, no neck muscle spasm, no shoulder pain, no upper extremity paresthesias, no upper extremity weakness, no urinary incontinence and no vomiting. Exacerbating factors include neck movement, but not exacerbated by arm movement, no exacerbated by sitting, standing or walking. Relieving factors not reported. Bilateral lower back pain, greater on the left. Pain radiates to left buttock, left thigh, left calf, left great toe and left lateral foot. Symptoms occur constantly. XX describes XX pain as sharp, aching, shooting, stabbing and throbbing in nature. The severity of the pain is variable (constantly present but the level of intensity waxes and wanes). 6-8. Associated symptoms include decreased lateral bending, decreased extension, decreased flexion, insomnia, lower extremity numbness, paresthesias, decreased spine ROM, decreased rotation, lower extremity tingling and lower extremity weakness, but no

abdominal pain, no dysuria, no fever, no urinary frequency, no hematuria, no fecal incontinence, no urinary incontinence, no menorrhagia, no saddle paresthesia. **Physical Exam:** Cervical Spine: Appearance: Normal. Tenderness: level 3-7 cervical spine, left paraspinal, right paraspinal and left trapezius muscle. Palpation: left-sided muscle spasms. ROM: full except as noted: Flexion: painful. Extension: painful. Right side bending: painful. Left side bending: painful. Right Rotation: painful. Left rotation: painful. Normal sensation, normal grip and normal reflexes. Lumbosacral spine: appearance normal. Level 1-S1 tenderness in the lumbar spine, level 1-S1 tenderness in the left paraspinal, level 1-s1 tenderness in the right paraspinal and tenderness in the left sciatic notch, but no tenderness in the right sciatic notch. Palpation: bilateral muscle spasms and right sided muscle spasms, but no warmth. ROM: full except: Flexion: AROM of 45° and painful. Extension: AROM of 10° and painful. Left Thoracolumbar side bending: painful. Right Thoracolumbar side bending: painful. Left Thoracolumbar rotation: painful. Radiology results: CSpine shows probable old DDD and spondylosis; no acute fractures, LSpine shows probable old DDD w/o fractures. **Assessment:** 1. Acute bilateral low back pain with left-sided sciatica. 2. Neck pain, acute. 3. Neck sprain and strain. 4. Strain of lumbar region, initial encounter. **Plan:** Start: XX HCl 10mg, 2. Start XX 800 mg. 3. Start XX HCl 50 mg. 4. Physical Therapy.

XXXX: X-Ray Spine, Cervical, 2 or 3 views interpreted by XX. **Impression:** Advanced multilevel and multifactorial degenerative cervical spondylosis.

XXXX: Office Note by XX. **HPI:** XX here to follow up on XX back and neck injury. Radiologist read x-rays report LS spine w/DDD; Cspine shows kyphosis along w/ severe DDD. Reports no change in sxs and pain when last seen. XX feels meds are only helping a little bit. Working modified duty. Has not been contacted about PT approval as of today. Pain 6/10. There is right lower back pain and right sacroiliac pain. Pain radiates to right groin, right buttock, right thigh, right calf, right great toe and right lateral foot. Exacerbating factors include bending, coughing, lifting, sitting, standing, twisting and a side sleeping position, but not walking. Relieving factors include nonsteroidal anti-inflammatory drugs, opioid analgesics and muscle relaxers. **Physical Exam:** Tenderness level 3-7 cervical spine. Flexion painful, extension painful, left side bending painful, right rotation painful, left rotation painful. Lumbosacral spine: appearance normal. Level 1-S1 tenderness in the lumbar spine, level 1-S1 tenderness in the left paraspinal, level 1-S1 tenderness in the right paraspinal and tenderness in the left sciatic notch, no tenderness in the right sciatic notch. Palpation: bilateral muscle spasms, left sided muscle spasms and right-sided muscle spasms. ROM: full, except as noted: Flexion: AROM 45° and painful. Extension: AROM 10° painful. **Assessment:** 1. Acute bilateral low back pain with left-sided sciatica. 2. Neck pain, acute. 3. Neck sprain and strain. 4. Strain of lumbar region, initial encounter. **Plan:** No medications were prescribed or dispensed for this encounter. Patient to check on PT status. Continue with meds; can increase XX and XX to q12 hrs XX. Continue modified duty.

XXXX: Office Note by XX. **HPI:** Patient reports feeling about the same. Back pain 5/10, neck pain 3/10. Had PT eval today and has 2 PT sessions scheduled for this week. **Physical Exam:** unchanged **Assessment:** Unchanged **Plan:** Continue meds, has PT this week, re-eval XX.

XXXX: Office Note by XX. **HPI:** Pt has attended XX PT visits since the last visit. **Physical Exam:** Unchanged. **Assessment:** 1. Strain of lumbar region, initial encounter. **Plan:** 1. Start: XX #3 300 30mg oral tab; one tab po qhs prn. 2. Start XX HCl 10mg. 1 tab bedtime as needed. 3. Lumbar active S-I belt

XXXX: Office Note by XX. **HPI:** Pt reports XX back is not doing any worse, but not better. XX r toes are still numb. XX has not had any symptoms in XX LLE recently. XX can perform ADLs . Patient reports they are performing their home exercise program daily. Treatment Status: continue therapy/rehabilitation as scheduled. Continue meds as directed. Patient may work their entire shift. Evaluation: 1. Acute bilateral low back pain with left-sided sciatica. 2. Neck pain, acute. 3. Neck sprain and strain. 4. Strain of lumbar region, initial encounter. **Therapy Assessment:** Overall progress as expected.

XXXX: Lumbar MRI interpreted by XX. **Impression:** 1. Mild bilateral foraminal stenosis at L4-5 as described. 2. Moderate to advanced facet arthropathy at L4-5 and L5-S1.

XXXX: Office Note by XX. **Assessment:** 1. Acute lumbar radiculopathy. 2. Lumbar foraminal stenosis. **Plan:** Start XX HCl 10mg. 2. Start: XX 15mg. 3. Orthopedic spine referral

XXXX: Office Note by XX. **HPI:** Patient has not seen the orthopedic specialist since XX was not accepted by these specialist (per patient). **Plan:** Pain management referral for possible ESI.

XXXX: Office Note by XX. **HPI:** Patient has had physical therapy and medication without significant help. XX is working full duty. XX takes XX prn and has stopped PT. By the end of the day the pain is severe. XX has numbness in XX right great toe. **Physical Exam:** Toe and heel walking poor on the right. Straight leg raise positive on the right L4-5 nerve distribution, dermatomal decrease in sensation on the right. XX has decreased flexion, extension, and rotation of the lumbar spine, pain in the lumbar facets bilaterally. Also, has cervical facet pain, C2-3, C3-4 bilaterally. **Assessment:** Lumbar sprain/strain and cervical sprain/strain. **Plan:** MRI of C-spine, right L4-5 lumbar epidural steroid injection with sedation as the patient has needle phobia, XX follow up, and physical therapy as the patient is quite deconditioned.

XXXX: UR performed by XX: **Rationale for Denial:** Based on the clinical information submitted for this review and using the evidence-based, peer-reviewed guidelines referenced above, this request is non-certified. There was an insufficient documentation of significant objective clinical findings that would show positive evidence of radiculopathy. Moreover, there was no clear objective evidence that the patient was initially unresponsive to conservative treatment (i.e. exercises, physical methods, nonsteroidal anti-inflammatory drugs [NSAIDs], muscle relaxants, and neuropathic drugs) prior to considering this intervention as there were limited medical reports submitted for review to determine patient's prior treatments received to date and to evaluate its response to treatments. Also, the use of sedation during ESI remains controversial. Thus, the request is not supported.

XXXX: MRI Cervical Spine interpreted by. **Impression:** 1. Moderate to advanced multilevel degenerative disc disease described above in greater detail. 2. Moderate arthritic changes prominent bony foraminal stenosis at C5-6 through T2-3 secondary to uncovertebral arthropathy with uncinate and endplate spurring. Correlation with x-ray study including oblique views would be helpful. 3. Straightening of the cervical spinal curvature can be associated with muscle spasms.

XXXX: UR performed by XX. **Rationale for Denial:** Based on the clinical information submitted for this review and using the evidence based, peer-reviewed guidelines referenced above, this request is non-certified. ESIs are recommended as a possible option for short-term treatment of radicular pain with use in conjunction with active rehab efforts. The patient has subjective signs of radiculopathy including low back pain with radiation to the right lower extremity. There are multiple objective findings of radiculopathy on exam including poor heal walking (L5), positive straight leg raise test on the right, and decreased sensation on the right in the L4-5. Although these MRI findings are not conclusive of radicular pain they do corroborate the radicular like pain symptoms that are noted by patient and by the requesting relaxants, and NSAIDs however, the physical therapy records were not provided to corroborate failed treatment. Therefore, the request for Lumbar Epidural Steroid Injection L4/L5 level on the right is not medically necessary.

ANALYSIS AND EXPLANATION OF THE DECISION INCLUDE CLINICAL BASIS, FINDINGS, AND CONCLUSIONS USED TO SUPPORT THE DECISION:
The request for a right lumbar epidural steroid injection (ESI) L4-L5 level is denied.

This patient injured XX lumbar spine in XXXX. The XXXX MRI of the lumbar spine identified 3mm of listhesis at L4-5, associated with a posterior disc bulge of 3mm. Moderate to advanced facet arthropathy was noted at L4-5 and L5-S1, without central stenosis. Bilateral foraminal stenosis at L4-5 was reported as mild.

XX continues to have pain in the lower back with radiation down the right leg. The most recent office note from XXXX documents a positive straight leg raise sign in the right leg, with decreased sensation in the right L4-5 dermatome. The treating physician has recommended a L4-5 ESI.

The Official Disability Guidelines (ODG) supports ESI in patients with radicular pain due to a herniated nucleus pulposus. Objective findings of radiculopathy must correlate with imaging and/or electrodiagnostic testing.

This patient has mild bilateral foraminal stenosis at L4-5 on MRI, which does not correlate with the severity of XX symptoms in XX right leg only. An EMG-NC study would be required to confirm radiculopathy at this level, prior to consideration of an ESI.

The patient is not a candidate for the injection.

Per ODG:

Epidural steroid injections (ESIs), therapeutic	Recommended as a possible option for short-term treatment of radicular pain (defined as pain in dermatomal distribution with corroborative findings of radiculopathy) with use in conjunction with active rehab efforts. Not recommended for spinal stenosis or for nonspecific low back pain. See specific criteria for use below. See the Neck Chapter, where ESIs are not recommended based on recent evidence, given the serious risks of this procedure in the cervical region and the lack of quality evidence for sustained benefit. **Criteria for the use of Epidural steroid injections:** *Note: The purpose of ESI is to reduce pain and inflammation, thereby facilitating progress in more active treatment programs, the reduction of medication use and the avoidance of surgery, but this treatment alone offers no significant long-term functional benefit.* (1) Radiculopathy (due to herniated nucleus pulposus, but not spinal stenosis) must be documented. Objective findings on examination need to be present. Radiculopathy must be corroborated by imaging studies and/or electrodiagnostic testing. (2) Initially unresponsive to conservative treatment (exercises, physical methods, NSAIDs, muscle relaxants, and neuropathic drugs). (3) Injections should be performed using fluoroscopy (live x-ray) and injection of contrast for guidance. (4) *Diagnostic Phase:* At the time of initial use of an ESI (formally referred to as the "diagnostic phase" as initial injections indicate whether success will be obtained with this treatment intervention), a maximum of one to two injections should be performed. A repeat block is not recommended if there is inadequate response to the first block (< 30% is a standard placebo response). A second block is also not indicated if the first block is accurately placed unless: (a) there is a question of the pain generator; (b) there was possibility of inaccurate placement; or (c) there is evidence of multilevel pathology. In these cases, a different level or approach might be proposed. There should be an interval of at least one to two weeks between injections. (5) No more than two nerve root levels should be injected using transforaminal blocks. (6) No more than one interlaminar level should be injected at one session. (7) *Therapeutic phase:* If after the initial block/blocks are given (see "Diagnostic Phase" above) and found to produce pain relief of at least 50-70% pain relief for at least 6-8 weeks, additional blocks may be supported. This is generally referred to as the "therapeutic phase." Indications for repeat blocks include acute exacerbation of pain, or new onset of radicular symptoms. The general consensus recommendation is for no more than 4 blocks per region per year. (CMS, 2004) (Boswell, 2007) (8) Repeat injections should be based on continued objective documented pain relief, decreased need for pain medications, and functional response. (9) Current research does not support a routine use of a "series-of-three" injections in either the diagnostic or therapeutic phase. We recommend no more than 2 ESI injections for the initial phase and rarely more than 2 for therapeutic treatment.

(10) It is currently not recommended to perform epidural blocks on the same day of treatment as facet blocks or sacroiliac blocks or lumbar sympathetic blocks or trigger point injections as this may lead to improper diagnosis or unnecessary treatment.
(11) Cervical and lumbar epidural steroid injection should not be performed on the same day. (Doing both injections on the same day could result in an excessive dose of steroids, which can be dangerous, and not worth the risk for a treatment that has no long-term benefit.)
(12) Excessive sedation should be avoided.

Radiculopathy symptoms are generally due to herniated nucleus pulposus or spinal stenosis, but ESIs have not been found to be as beneficial a treatment for the latter condition. According to SPORT, ESIs are associated with less improvement in spinal stenosis. (Radcliff, 2013)

Short-term symptoms: The American Academy of Neurology recently concluded that epidural steroid injections may lead to an improvement in radicular pain between 2 and 6 weeks following the injection, but they do not affect impairment of function or the need for surgery and do not provide long-term pain relief beyond 3 months. (Armon, 2007) Epidural steroid injection can offer short-term pain relief and use should be in conjunction with other rehab efforts, including continuing a home exercise program. There is little information on improved function or return to work. There is no high-level evidence to support the use of epidural injections of steroids, local anesthetics, and/or opioids as a treatment for acute low back pain without radiculopathy. (Benzon, 1986) (ISIS, 1999) (DePalma, 2005) (Molloy, 2005) (Wilson-MacDonald, 2005)

Use for chronic pain: Chronic duration of symptoms (> 6 months) has also been found to decrease success rates with a threefold decrease found in patients with symptom duration > 24 months. The ideal time of either when to initiate treatment or when treatment is no longer thought to be effective has not been determined. (Hopwood, 1993) (Cyteval, 2006) Indications for repeating ESIs in patients with chronic pain at a level previously injected (> 24 months) include a symptom-free interval or indication of a new clinical presentation at the level.

For spinal stenosis: The use of epidural steroid injection (ESI) in patients with lumbar spinal stenosis is common, but there is little evidence in the literature to demonstrate its long-term benefit. Despite equivalent baseline status, ESIs are associated with significantly less improvement at 4 years among all patients with spinal stenosis. Furthermore, ESIs were associated with longer duration of surgery and longer hospital stay. There was no improvement in outcome with ESI whether patients were treated surgically or nonsurgically. There was no distinct surgical avoidance noted with ESI. (Radcliff, 2013) This systematic review found the data was limited to suggest that ESI is effective in lumbar spinal stenosis. (Bresnahan, 2013) An RCT addressed the use of ESIs for treatment of spinal stenosis, and there was no statistical difference except in pain intensity and Roland Morris Disability Index and this was at two weeks only. (Koc, 2009) According to the APS/ ACP guidelines, ESIs are not for nonspecific low back pain or spinal stenosis. (Chou, 2008) According to a high-quality RCT, in the treatment of symptoms of lumbar spinal stenosis, epidural injections of glucocorticoids plus lidocaine offered minimal or no benefit over epidural injections of lidocaine alone at 6 weeks. At 3 weeks, the glucocorticoid-lidocaine group had greater improvement than the lidocaine-alone group, but the differences were clinically insignificant. Despite a rapid increase in the use of epidural glucocorticoid injections for lumbar spinal stenosis, there is little evidence of effectiveness from clinical trials. (Friedly, 2014)

Transforaminal approach: Some groups suggest that there may be a preference for a transforaminal approach as the technique allows for delivery of medication at the target tissue site, and an advantage for transforaminal injections in herniated nucleus pulposus over translaminar or caudal injections has been suggested in the best available studies. (Riew, 2000)

(Vad, 2002) (Young, 2007) This approach may be particularly helpful in patients with large disc herniations, foraminal stenosis, and lateral disc herniations. (Colorado, 2001) (ICSI, 2004) (McLain, 2005) (Wilson-MacDonald, 2005) Two recent RCTs of caudal injections had different conclusions. This study concluded that caudal injections demonstrated 50% pain relief in 70% of the patients, but required an average of 3-4 procedures per year. (Manchikanti, 2011) This higher quality study concluded that caudal injections are not recommended for chronic lumbar radiculopathy. (Iversen, 2011) Transforaminal epidural steroid injections, despite being generally regarded as superior to interlaminar injections, are not significantly better in providing pain relief or functional improvement, according to a new systematic review. (Chien, 2014)

Fluoroscopic guidance: Fluoroscopic guidance with use of contrast is recommended for all approaches as needle misplacement may be a cause of treatment failure. (Manchikanti, 1999) (Colorado, 2001) (ICSI, 2004) (Molloy, 2005) (Young, 2007)

Factors that decrease success: Decreased success rates have been found in patients who are unemployed due to pain, who smoke, have had previous back surgery, have pain that is not decreased by medication, and/or evidence of substance abuse, disability or litigation. (Jamison, 1991) (Abram, 1999) Research reporting effectiveness of ESIs in the past has been contradictory, but these discrepancies are felt to have been, in part, secondary to numerous methodological flaws in the early studies, including the lack of imaging and contrast administration. Success rates also may depend on the technical skill of the interventionalist. (Carette, 1997) (Bigos, 1999) (Rozenberg, 1999) (Botwin, 2002) (Manchikanti, 2003) (CMS, 2004) (Delport, 2004) (Khot, 2004) (Buttermann, 2004) (Buttermann2, 2004) (Samanta, 2004) (Cigna, 2004) (Benzon, 2005) (Dashfield, 2005) (Arden, 2005) (Price, 2005) (Resnick, 2005) (Abdi, 2007) (Boswell, 2007) (Buenaventura, 2009) Also see Epidural steroid injections, "series of three" and Epidural steroid injections, diagnostic. ESIs may be helpful with radicular symptoms not responsive to 2 to 6 weeks of conservative therapy. (Kinkade, 2007) Epidural steroid injections are an option for short-term pain relief of persistent radiculopathy, although not for nonspecific low back pain or spinal stenosis. (Chou, 2008) As noted above, injections are recommended if they can facilitate a return to functionality (via activity and exercise). If post-injection physical therapy visits are required for instruction in these active self-performed exercise programs, these visits should be included within the overall recommendations under Physical therapy, or at least not require more than 2 additional visits to reinforce the home exercise program.

With discectomy: Epidural steroid administration during lumbar discectomy may reduce early neurologic impairment, pain, and convalescence and enhance recovery without increasing risks of complications. (Rasmussen, 2008) Not recommended post-op. The evidence for ESI for post lumbar surgery syndrome is poor. (Manchikanti, 2012)

Patient selection: Radiculopathy must be documented, as indicated in the ODG criteria. In addition, ESIs are more often successful in patients without significant compression of the nerve root and, therefore, in whom an inflammatory basis for radicular pain is most likely. In such patients, a success rate of 75% renders ESI an attractive temporary alternative to surgery, but in patients with significant compression of the nerve root, the likelihood of benefiting from ESI is low (26%). This success rate may be no more than that of a placebo effect, and surgery may be a more appropriate consideration. (Ghahreman, 2011) Injections for spinal pain have high failure rates, emphasizing the importance of patient selection. Individuals with centralized pain, such as those with fibromyalgia and chronic widespread pain, and poorly controlled depression, may be poor candidates. (Brummett, 2013)

MRIs: According to this RCT, the use of MRI before ESIs does not improve patient outcomes and has a minimal effect on decision making, but the use of MRI might have reduced the total number of injections required and may have improved outcomes in a subset of patients. Given

these potential benefits as well as concerns related to missing important rare contraindications to epidural steroid injection, plus the small benefits of ESIs themselves, ODG continues to recommend that radiculopathy be corroborated by imaging studies and/or electrodiagnostic testing. (Cohen, 2012)

Fracture risk: Lumbar ESIs are associated with an increased risk for spinal fracture. Each single additional ESI increased the risk for fracture by 21%, with an increasing number of ESIs associated with an increasing likelihood of fracture. Use of ESIs seems to promote deterioration of skeletal quality. This definable fracture risk should be balanced with the best available evidence regarding the long-term efficacy of ESIs, which is limited. Clinicians should consider these findings before prescribing ESIs for elderly patients. (Mandel, 2013)

Sedation: The use of sedation during ESI remains controversial. Sedation is less often indicated during lumbar ESI compared with cervical ESI because fewer patients experience a vasovagal reaction, which is likely an indicator of anxiety. (Trentman, 2009) According to a multidisciplinary collaboration led by the FDA, heavy sedation should be avoided in favor of sedation light enough to allow the patient to communicate during the procedure. (Rathmell, 2015) For a more extensive discussion, see the Pain Chapter. See also the Neck Chapter.

Recent research: An updated Cochrane review of injection therapies (ESIs, facets, trigger points) for low back pain concluded that there is no strong evidence for or against the use of any type of injection therapy, but it cannot be ruled out that specific subgroups of patients may respond to a specific type of injection therapy. (Staal-*Cochrane*, 2009) Recent studies document a 629% increase in expenditures for ESIs, without demonstrated improvements in patient outcomes or disability rates. (Deyo, 2009) There is fair evidence that epidural steroid injection is moderately effective for short-term (but not long-term) symptom relief. (Chou3, 2009) This RCT concluded that caudal epidural injections containing steroids demonstrated better and faster efficacy than placebo. (Sayegh, 2009) In this RCT there were no statistically significant differences between any of the three groups at any time points. This study had some limitations: only one type of steroid in one dose was tested; the approach used was caudal and transforaminal injections might provide superior results. (Weiner, 2012) Effects are short-term and minimal. At follow-up of up to 3 months, epidural steroids were associated with statistically significant reductions in mean leg pain and mean disability score, but neither of these short-term improvements reached the threshold for clinical significance. There were no significant differences in either leg pain or disability at the 12-month follow-up. (Pinto, 2012) According to this systematic review, ESIs without the drug (epidural nonsteroid injections), often used as a placebo treatment, were as effective as ESIs and better than no epidural injections. (Bicket, 2013) This meta-analysis suggested that ESI did not improve back-specific disability more than a placebo or other procedure long-term (6 months), and did not significantly decrease the number of patients who underwent subsequent surgery. (Choi, 2013) The FDA is warning that injection of corticosteroids into the epidural space of the spine may result in rare but serious adverse events, including loss of vision, stroke, paralysis, and death. (FDA, 2014) This study shows that ESIs had a significant beneficial effect as an additional treatment for lumbosacral radicular syndrome in general practice, but the effect was too small to be considered clinically relevant to patients, so the authors do not recommend ESIs as a regular intervention in general practice. (Spijker-Huiges, 2014) A high-quality RCT concluded that gabapentin and ESIs for radicular pain both resulted in modest improvements in pain and function, which persisted through three months. Some differences favored ESIs, but these tended to be small and transient. They recommended a trial with neuropathic drugs as a reasonable first line treatment option. (Cohen, 2015) The AHRQ comparative effectiveness study on injection therapies for LBP concluded that ESIs for radiculopathy were associated with immediate improvements in pain and might be associated with immediate improvements in function, but benefits were small and not sustained, and there was no effect on long-term risk of surgery. Evidence did not suggest that effectiveness varies

	based on injection technique, corticosteroid, dose, or comparator. Limited evidence suggested that epidural corticosteroid injections are not effective for spinal stenosis or nonradicular back pain. (Chou, 2015) In another systematic review, evidence was only robust for positive effects in patients with chronic radiculopathy, with statistically significant effects on immediate (5 days to ≤2 weeks) improvement in pain, and short-term (>2 weeks to ≤3 months) surgery risk. (Chou, 2015b)

A DESCRIPTION AND THE SOURCE OF THE SCREENING CRITERIA OR OTHER CLINICAL BASIS USED TO MAKE THE DECISION:

- ☐ **ACOEM- AMERICAN COLLEGE OF OCCUPATIONAL & ENVIRONMENTAL MEDICINE UM KNOWLEDGEBASE**
- ☐ **AHCPR- AGENCY FOR HEALTHCARE RESEARCH & QUALITY GUIDELINES**
- ☐ **DWC- DIVISION OF WORKERS COMPENSATION POLICIES OR GUIDELINES**
- ☐ **EUROPEAN GUIDELINES FOR MANAGEMENT OF CHRONIC LOW BACK PAIN**
- ☐ **INTERQUAL CRITERIA**
- ☒ **MEDICAL JUDGEMENT, CLINICAL EXPERIENCE, AND EXPERTISE IN ACCORDANCE WITH ACCEPTED MEDICAL STANDARDS**
- ☐ **MERCY CENTER CONSENSUS CONFERENCE GUIDELINES**
- ☐ **MILLIMAN CARE GUIDELINES**
- ☒ **ODG- OFFICIAL DISABILITY GUIDELINES & TREATMENT GUIDELINES**
- ☐ **PRESSLEY REED, THE MEDICAL DISABILITY ADVISOR**
- ☐ **TEXAS GUIDELINES FOR CHIROPRACTIC QUALITY ASSURANCE & PRACTICE PARAMETERS**
- ☐ **TEXAS TACADA GUIDELINES**
- ☐ **TMF SCREENING CRITERIA MANUAL**
- ☐ **PEER REVIEWED NATIONALLY ACCEPTED MEDICAL LITERATURE (PROVIDE A DESCRIPTION)**
- ☐ **OTHER EVIDENCE BASED, SCIENTIFICALLY VALID, OUTCOME FOCUSED GUIDELINES (PROVIDE A DESCRIPTION)**